

CLAIMS

1. A combustion engine comprising:
  - a) a housing with an interior that includes a fluid reservoir;
  - 5           b) the reservoir having a fluid for combustion;
  - c) the housing having a mechanical mixer that generates minute bubbles in the fluid;
  - d) a drive shaft mounted on the housing and including a portion that extends into the housing interior;
  - 10           h) a chamber mounted to the drive shaft for rotation therewith;
  - i) a power generating system positioned within the chamber interior for rotating the drive shaft when fluid combustion takes place within the chamber interior;
  - 15           j) a circulation channel for supplying fluid from the reservoir to the power generator along a continuous flow path;
  - k) the power generating unit including at least two rotating members, each with vanes thereon, the respective vanes  
20           being closely positioned with a small gap therebetween so that when the two rotating members are rotated in a given rotational direction, combustion of material in the small bubbles occurs in and between the rotating members;
  - l) starter means for preliminarily rotating the  
25           shaft; and
  - m) the respective vanes of the two rotating members being configured so that the rotating members rotate in opposite rotational directions when the starter motor is activated causing fluid to flow to the vanes.
- 30       2. The engine of claim 1 wherein the power generating unit includes a gear arrangement for transferring rotary power from one of the rotating members to the chamber and drive shaft.
- 35       3. The engine of claim 2 wherein the gear arrangement includes one or more planetary gear set.

4. The engine of claim 1 wherein the fluid has a fluid surface within the reservoir and the chamber is positioned above the fluid surface.

5. The engine of claim 1 wherein the fluid is preliminarily pumped through the circulation channel when the starter is activated.

6. The engine of claim 1 wherein the bubble forming means includes but not limited to a member mounted for rotation on the drive shaft.

7. The engine of claim 1 wherein the vanes of at least one of the rotating members are curved.

8. The engine of claim 7 wherein the vanes of at least one of the rotating members includes circumferentially, regularly spaced apart vanes mounted on a circular body.

9. The engine of claim 7 wherein the vanes of each of the rotating members includes circumferentially, regularly spaced apart vanes mounted on a circular body.

10. A combustion engine comprising:

a) an engine housing that includes a pump having a fluid reservoir containing a combustible fluid;

b) a rotating drive shaft rotatably mounted on the housing and having a central flow bore therein;

c) a high pressure chamber fixedly attached to the drive shaft for rotation therewith;

d) a clam shell having left and right halves, the left clam shell including the high pressure chamber containing:

- a plurality of pump blades rotatably journaled to the drive shaft;

- a reaction blades unit including one or more reaction blades rotatably journaled on the drive shaft;

- a turbine rotatably journaled on the drive shaft and containing one or more combustion channel blades;

- a transmission gear set including a right ring gear fixedly attached to a right end plates for rotation therewith, a right sun gear fixedly attached to the right clam

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shell for rotation therewith, one or more planet gears, each planet gear rotatably journalled turbine at a location radially intermediate the sun gear and the ring gear and in meshing engagement with the sun gear and the ring gear;

5                   - the gear set including a left end plurality of planet gears rotatably mounted on the plate end plate and a sun gear attached to the reaction blades and a left ring gear attached to the pump blades, wherein the right sun gear is affixed to the right clam shell;

10                  e) means for circulating the fluid through the high pressure chamber;

                  f) means for aerating the fluid so that it contains small bubbles with a mixture of oxygen; and

                  g) the impulse drive blades and combustion channel  
15 blades being so configured and spaced and with a small gaps therebetween to compress the small bubbles at an interface, combustion area next to the gap between the impulse drive blades and combustion channel blades.

11. The engine of claim 10 wherein the housing completely  
20 surrounds the high pressure chamber.

12. The engine of claim 10 wherein the chamber includes a pair of end plates affixed to the shaft for rotation therewith.

13. The engine of claim 10 wherein an air (gas) bubble  
25 is combusted.

14. The engine of claim 10 wherein the drive shaft has a fluid conveying bore and a transverse port that exits the shaft between its end portions.

15. The engine of claim 10 wherein the aerating means  
30 includes a rotating member that is carried by the shaft and at least one outlet flow jet that sprays fluid from the chamber and upon the rotation member during use.

16. The engine of claim 10 wherein further comprising a starter for initiating a rotation of the shaft.

35                  17. The engine of claim 10 wherein the starter rotates

the shaft a rotational speed sufficient to initiate combustion of the fluid at the interface.

18. The engine of claim 12 wherein the ring gear is affixed to one of the end plates.

5 19. The engine of claim 13 wherein the compression drive unit is affixed to the end plate and shaft for rotation therewith.

20. The engine of claim 10 wherein a continuous stream of bubbles is combusted.

10 21. A combustion engine comprising:

a) a housing with an interior that includes a fluid reservoir;

b) the reservoir having a fluid for combustion;

c) means for forming bubbles in the fluid;

15 d) a drive shaft mounted on the housing and including a portion that extends into the housing interior;

h) a chamber mounted on the drive shaft for rotation therewith;

20 i) power generator means positioned within the chamber interior for rotating the drive shaft when fluid combustion takes place within the chamber interior;

j) a circulation channel for supplying fluid from the reservoir to the power generating unit along a continuous flow path;

25 k) the power generator means including at least two rotating members, that are so configured and so closely positioned with respect to each other that when the two rotating members are rotated, combustion of material in the small bubbles occurs at a combustion gap in between the two rotating members so that the bubbles expand;

30 l) starter means for preliminarily rotating the drive shaft;

m) the respective vanes of the two rotating members being so configured that the rotating members rotate the shaft when said bubbles expand.

22. The apparatus of claim 21 wherein the power generator means includes three rotating members.

23. The apparatus of claim 21 wherein a gear configuration enables torque without mechanical grounding.

5 24. The apparatus of claim 1 wherein the shaft generates both input and output.

25. The apparatus of claim 21 wherein an air (gas) bubble is combusted.

10 26. The apparatus of claim 21 wherein a continuous stream of bubbles is combusted.

27. The apparatus of claim 21 wherein torque is generated on the shaft through a gearing arrangement.